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Cotton Fiber and Processing Test Results



CROP of

1977



Agricultural Marketing Service
U.S. DEPARTMENT OF AGRICULTURE
Memphis, Tenn. 38122 December 30, 1977

COTTON FIBER AND PROCESSING TEST RESULTS, CROP OF 1977

Discussion of Test Results

Southwestern short staple cottons tested through December 23 are longer, more uniform and finer than a year ago, according to the Cotton Division, Agricultural Marketing Service, USDA. Fiber strength is stronger at both zero and 1/8" gage tests. Picker and card waste is lower. Yarns spun from these samples are stronger. Appearance grades are slightly lower. The average spinning potential yarn number is much higher than it was at the same time last season.

Average results for all medium staple cottons tested show fibers to be longer, more uniform and coarser than a year earlier. Shirley Analyzer nonlint content is higher, but picker and card waste is lower. Yarns spun from these samples are weaker and have lower appearance grades. Yarn imperfections are higher.

Medium staple samples tested from the Southeast show about the same fiber characteristics as a year ago. Picker and card waste is lower. Yarns spun from these samples show weaker yarn strength than last season. Appearance grades are lower. The spinning potential is lower.

South Central medium samples tested are longer, more uniform and coarser than a year ago. Fiber strength is weaker at zero gage strength tests. Shirley Analyzer nonlint content is higher, but picker and card waste is lower. Yarns spun from these samples are weaker and have lower appearance grades. Yarn imperfections are higher.

Southwestern medium staple samples tested to date are longer, more uniform and stronger at zero gage than a year ago. Picker and card waste is lower. Yarns spun from these samples are weaker and have lower appearance grades. Yarn imperfections are lower.

Medium staple samples tested from the West are slightly shorter, more uniform and stronger than last season. Shirley Analyzer nonlint content is higher, but picker and card waste is lower this season. Yarns spun from these samples have lower yarn appearance grades. Yarn imperfections are higher.

Southeastern area long staple samples are shorter and coarser than a year ago. Both Shirley Analyzer and picker and card waste are higher than a year ago. Yarns spun from these samples are weaker. Yarn imperfections are fewer. The average spinning potential is lower.

South Central long staple samples tested are longer, more uniform and coarser than a year ago. Both Shirley Analyzer nonlint content and picker and card waste are higher. Yarns spun from these samples are weaker and have higher imperfections than a year earlier. Spinning potential is higher.

Long staple samples tested from the West show fibers to be shorter, less uniform and coarser than a year ago. Shirley Analyzer nonlint content is higher, but picker and card waste is lower. Yarns spun from these samples are weaker. Yarn imperfections are lower. Spinning potential is lower.

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These reports are published bi-weekly during the harvesting season and will be summarized in a comprehensive report at the end of the crop year. A detailed description of the tests shown in this report may be found in the summary report for the previous season.^{1/} These reports are available on request from the Standardization Section, Cotton Division, Agricultural Marketing Service, U. S. Department of Agriculture, 4841 Summer Avenue, Memphis, TN 38122.

^{1/} Summary of Cotton Fiber and Processing Test Results, Crop of 1976, USDA, AMS Cotton Division, June 1977.

Table 1.--Cotton: Averages of fiber and processing tests from selected gin points in the United States through December 23, 1977 ^{1/}

Staple group Area, and Crop year	Lots tested	Fiber test results						Processing test results					
		Fibrograph		Mike fine- ness	Fiber strength		S A nonlint	P & C waste	Yarn quality			Spin. Potent.	
		2.5% span	50/2.5 unif.		Zero gage	1/8" gage			Skein str.	Appearance	Imper- fections		
				Inches			Pct.	Rdg.				Mpsi	G/tex
22s Carded Yarn													
Short Staple: Southwest 1976 1977	36	0.96	45	4.4	85	21	3.3	7.1	87	112	14	38	
	81	0.99	46	4.2	88	22	3.2	5.4	100	109	13	48	
Medium Staple: Southeast 1976 1977	45	1.08	45	4.6	85	23	3.1	6.4	106	98	20	56	
	36	1.08	45	4.7	86	22	3.2	6.1	96	92	21	50	
South Central 1976 1977	119	1.08	44	4.2	88	23	2.7	6.3	108	99	17	56	
	123	1.11	45	4.6	86	23	3.5	6.0	104	95	22	57	
Southwest 1976 1977	31	1.06	45	4.1	82	22	3.3	6.5	104	96	22	56	
	47	1.08	46	4.2	86	22	3.2	5.7	100	90	19	54	
West 1976 1977	56	1.12	45	4.2	90	25	2.2	5.7	120	90	19	67	
	81	1.11	46	4.3	94	26	2.6	5.3	119	86	21	68	
U.S. Average 1976 1977	251	1.08	45	4.2	87	24	2.7	6.2	110	96	19	58	
	287	1.10	46	4.5	88	23	3.2	5.8	106	91	21	59	
Significant dif- ference 2/		0.02	2	0.2	2	1	0.5	0.5	4(22s)	5	2	3	

^{1/} Based on a limited number of samples of modal quality
^{2/} Minimum differences considered to be significant for comparisons in this table.

Table 1.--Cotton:

Averages of fiber and processing tests from selected gin points in the United States through December 23, 1977

1/ (Continued)

Staple group, Area, and Crop year	Lots	Fiber Test Results						Processing Test Results													
		Length		Mike	Strength		SA Non- lint	P&C Waste	Comber Waste	Yarn Quality					SPY						
		Span	Unif		Zero	1/8" gage				carded	combed	Strength carded	Lbs. carded	Lbs. combed		Indx carded	Indx combed	Appearance combed	Imprfctns card	No.	No.
No.	In.	Pct.	Rdg.	Mpsi	G/tx	Pct.	Pct.	Lbs.	Lbs.	Indx	Indx	No.	No.	No.	No.	No.					
22s Carded & Combed Yarn																					
Long Staple: Southeast	11	1.15	45	4.3	87	25	3.1	6.7	15.8	116	137	103	115	21	9	67					
	12	1.13	45	4.8	88	23	3.5	7.1	*	99	*	102	*	18	*	58					
South Central	3	1.12	42	3.7	91	26	3.4	6.8	20.3	109	137	97	103	13	10	57					
	3	1.16	45	4.5	92	24	4.3	7.2	*	106	*	97	*	24	*	63					
West	1	1.20	48	3.8	89	26	2.9	6.4	11.8	147	162	90	100	30	12	103					
	6	1.18	47	4.1	92	27	3.2	6.0	*	130	*	92	*	24	*	89					
Significant Difference 2/		0.02	2	0.2	2	1	0.5	0.5	0.5	4(22s)	4(22s)	5	5	2	2	3					

1/ Based on a limited number of samples of modal quality.

2/ Minimum differences considered to be significant for comparisons in this table.

* Combed data not available.

Table 2 --Cotton, American upland short staple: Quality characteristics by production areas, crop of 1977

Production Area, Classification & Sample Number				Processing Test Results - Carded Yarns									
				Fiber Test Results					P & C				
				Digital Fibrograph		Mike	Fiber Strength		Elon- gat'n 1/8"	S.A. Non- lint		Color Raw Stock	
				2.5% span	Unif		Zero Gage	1/8" Gage		Pct	No	Gra	Yel
No	Grade	Stple	32s	In	Pct	Rdg	Mpsi	G/tex	Pct	No	No	No	No
SOUTHWEST AREA													
NORTHWEST TEXAS													
AMHERST													
2 MID	31	31	0.94	48	5.3	83	21	6.6	1.7	0	3	4.5	70 PERCENT
3 MID	31	31	0.98	45	4.5	89	22	7.1	2.0	1	3	4.7	91 7.8
NEWCASTLE													
3 MID LT SP	32	32	0.97	45	4.1	86	20	7.2	2.7	2	3	4.8	95 PERCENT
PADUCAH													
2 MID	31	32	1.02	47	4.5	86	22	7.1	2.7	1	4	4.6	70 PERCENT
3 MID LT SP	32	32	1.01	46	4.5	88	22	7.1	2.9	1	3	4.6 1/2	102 7.8
PETERSBURG													
4 MID LT SP	32	32	1.02	43	3.8	81	21	7.0	2.8	1	3	5.6	90 PERCENT
RALLS													
3 MID LT SP	32	32	1.05	43	3.3	83	22	7.1	3.1	0	3	4.9 1/2	75 PERCENT
SNYDER													
3 MID	31	31	0.98	44	4.0	88	21	6.2	2.7	0	3	4.4 1/2	85 PERCENT

1/ Cotton stuck to processing rolls

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1977

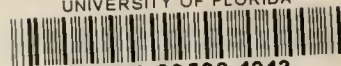
Production Area, Classification				Fiber Test Results						Processing Test Results - Carded Yarns											
Sample Number		Digital Fibrograph		Mike	Fiber Strength		Elon- gat'n 1/8"	S.A. Non-Lint	Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfct'ns		Spin. Potent- tial	
No	Grade	Stple	2.5% span	In	Pct	Rdg	Zero Gage	1/8" Gage	Pct	Gra	Yel	Pct	Lbs	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	No	
SOUTHEAST AREA																					
ALABAMA																					
MONTGOMERY																					
51	34	1.16	45	4.1	80	22	8.0	3.4	3	4	5.8	88 PERCENT	104	35	6.3	4.8	70	50	35	25	60
GEORGIA																					
BOSTWICK																					
43	34	1.03	45	4.4	83	21	6.2	4.5	5	5	7.1	100 PERCENT	93	29	5.5	4.2	80	70	26	18	46
SOUTHWEST AREA																					
NORTHWEST TEXAS																					
LUBBOCK																					
31	34	1.07	44	4.2	87	22	6.9	2.8	0	3	5.4	100 PERCENT *	105	33	5.9	4.3	80	60	20	15	52
WEST AREA																					
ARIZONA																					
BUCKEYE																					
41	35	1.09	46	4.7	90	24	6.7	3.7	1	3	5.3	100 PERCENT	103	36	5.9	4.5	90	70	24	17	59
BUCKEYE																					
41	34	1.08	46	5.0	87	22	6.1	2.3	1	3	5.1	100 PERCENT	97	32	5.4	3.8	100	80	12	11	53
MARANA																					
41	35	1.11	46	4.5	83	23	8.0	2.8	2	2	4.5	100 PERCENT	105	34	6.4	4.9	90	60	25	21	61
MARICOPA																					
41	34	1.09	44	4.7	86	24	6.7	3.1	2	3	5.3	96 PERCENT	99	31	5.8	4.4	80	60	25	22	50
MOHAVE VALLEY																					
31	34	1.10	42	4.4	91	20	5.3	2.3	0	2	6.5	100 PERCENT	92	28	4.8	3.5	100	60	14	14	50
QUEEN CREEK																					
31	35	1.13	46	5.1	88	23	6.8	1.7	0	3	5.1	100 PERCENT	108	34	5.8	4.3	100	80	21	15	55
ROLL																					
41	35	1.15	45	4.3	89	23	6.0	3.2	1	2	6.6	97 PERCENT	102	31	5.4	3.9	80	60	26	23	53

* 100% selected for tests, less than 100% in the area.

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1977--(Continued)

Production Area, Classification & Sample Number				Fiber Test Results										Processing Test Results - Carded Yarns									
No	Grade	Stple	32s	Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-Lint	Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfect'ns		Spin. Potential	
				2.5% span	Unif.		Zero Gage	1/8" Gage			Gra	Yel		22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx		
WEST AREA--(Continued)																							
CALIFORNIA																							
BUTTONWILLOW		41	35	1.10	43	3.0	93	26	ACALA SJ-2	6.0	3.7	1	2	6.4	119	40	5.2	4.5	70	70	25	20	57
CHOWCHILLA		51	36	1.11	46	4.0	97	28	ACALA SJ-4	6.1	3.9	1	2	6.5	116	39	5.5	4.3	60	60	42	34	65
COALINGA		41	35	1.06	42	3.4	89	26	ACALA SJ-2	6.4	3.7	3	3	5.4	134	46	6.3	4.6	70	60	35	22	80
COALINGA		31	36	1.10	45	4.0	90	25	ACALA SJ-2	6.3	2.6	1	3	4.7	123	44	5.6	4.3	90	80	14	12	76
FIREBAUGH		31	36	1.14	47	4.3	95	27	ACALA SJ-2	5.9	2.5	0	3	4.9	125	45	5.7	4.6	90	70	17	13	80
FIVE POINTS		41	36	1.15	46	4.2	94	28	ACALA SJ-2	6.5	4.0	1	3	5.8	132	47	6.3	4.9	90	80	15	14	82
LOS BANDS		41	36	1.11	45	3.6	91	25	ACALA SJ-2	6.4	3.8	1	3	6.1	127	44	4.5	6.1	80	60	30	21	82
MENDOTA		31	36	1.10	46	4.4	92	27	ACALA SJ-4	6.5	3.8	0	3	5.1	125	45	5.6	4.5	90	70	22	15	74
RIPLEY		31	35	1.09	44	4.5	88	24	DELTAPINE 61	6.2	2.2	1	3	6.1	95	28	5.2	3.4	90	70	15	12	49
SAN JOAQUIN		51	36	1.11	45	2.8	90	26	ACALA SJ-2	6.4	3.9	2	2	5.5	120	43	5.7	4.4	70	60	36	24	70
VISALIA		31	35	1.10	46	4.3	102	28	ACALA SJ-4	6.0	1.5	1	4	4.5	138	49	5.8	4.6	90	80	20	12	83
WESTMORLAND		32	34	1.08	45	5.1	88	22	DELTAPINE 61	6.1	2.6	1	3	5.7	94	31	4.9	3.7	90	80	17	16	45

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